

AMENDMENTS TO CLAIMS

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-83 (Cancelled)

84. (Currently amended) A system for ~~fixation of a~~ processing a biological sample for microscopic examination comprising:

a reaction chamber containing a biological sample that is exposed to a fixative solution;

an ultrasound transducer disposed movably on said reaction chamber; and

a central processing unit controlling a frequency of ultrasound emitted by said ultrasound transducer;

wherein ~~said~~ ultrasound is applied to a the sample in ~~said the~~ reaction chamber ~~during a fixation process~~ to obtain a fixed biological sample.

85. (Original) The system of claim 84 comprising more than one transducer.

86. (Original) The system of claim 84 further comprising one or more sensors.

87. (Original) The system of claim 84 further comprising means for heating or cooling said reaction chamber.

88. (Original) The system of claim 84 further comprising a pump.

89. (Original) The system of claim 84 further comprising a distributor.

90. (Currently amended) The system of claim 84 wherein ~~said the biological~~ sample is a tissue sample, ~~a membrane, a membrane filter, a tissue sample mounted on a slide, a nucleic acid chip, a microarray of nucleic acid, a microarray of tissue, or an immuno chip.~~

91. (Original) The system of claim 84 further comprising means for sampling reaction

fluid.

92. (Previously presented) The system of claim 84, wherein said ultrasound transducer is disposed within about 2 inches of said sample.

93. (Previously presented) The system of claim 92, wherein said ultrasound transducer is disposed within about 1 inch of said sample.

94. (New) The system of claim 84, wherein the ultrasound transducer is a 1.6 to 1.7 MHz ceramic transducer and the ultrasound is applied at 0.01 to 5 W/cm².

95. (New) The system of claim 84, wherein the fixative solution is formalin.

96. (New) The system of claim 84, wherein the fixative solution is 100% alcohol.

97. (New) The system of claim 84, wherein the fixative solution is xylene.

98. (New) The system of claim 84, wherein the fixative solution is paraffin.

99. (New) The system of claim 84, wherein the biological sample comprises a tissue sample hybridized with a FITC-labeled oligonucleotide probe.

100. (New) The system of claim 84, wherein the biological sample comprises a tissue sample reacted with an antibody.